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Curricular trends within the areas of elementary school, middle school, secondary school, and special education influence facilities. Modern school facility planning takes into account the social, emotional, physical, and mental aspects of the whole child. A school environment which requires a minimum of bodily energy for adaptation, allows the child to release a maximum of energy for purposeful living. Educational spaces must be functional both in size and relation to one another and be adaptable to change. Standards for evaluation of existing school facilities include educational adequacy, site and location adequacy, and structural adequacy. Greater emphasis is being placed on special education. Children with special needs total approximately 10 to 13 percent of school age children. (LD)

**LONG-RANGE FACILITY PLANS
for
UNIFIED SCHOOL DISTRICT NO. 373
NEWTON, KANSAS**

HARVEY COUNTY

1967

ED025108



**KANSAS STATE DEPARTMENT OF PUBLIC INSTRUCTION
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Topeka, Kansas 66612**

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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NEWTON, KANSAS

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PREFACE

The American Association of School Administrators in one of its recent publications referred to the task of school planning as follows:

"IF

the educational program never changed;
the culture were static and scientists had ceased
probing into the unknown;
inventors had gone on a long holiday and discoveries
and innovations were at a standstill;
population mobility had ceased and the birth rate
had become a constant factor;
community life always remained the same;
towns and cities were all alike;
there were no differences in school site;
no new jobs were being created;
no new educational needs were emerging and the
specific purposes of the school were rigidly defined;
the researchers had concluded that all the answers to
the problems of teaching and learning had been found;
there were no more content to be added to the curriculum;
the producers of instructional materials and equipment
had ceased to experiment and had settled down to
producing a standard product;
people were entirely content with present accomplishments;
the dynamic forces of society had all been securely
grounded and had ceased to function;

THEN

school building planning would be a simple matter.
stock plans and standard classrooms would be the answer
to the school district's needs for building space.

BUT

such is not the case, nor is it likely to be. Ours is a
vigorous, restless, fermenting, dynamic society characterized
by a soaring population, a rising standard of living, multi-
plication of material comforts, an increasing life span,
new job opportunities, changing educational expectations,
shrinking distances, and rapid communication. It is against
this background of changing culture that administrators,
teachers, school board members, local citizen groups,
architects, and school plant consultants must plan school
buildings. And the tremendous difficulty of this task
cannot be fully comprehended until one realizes that a
building planned now must not only meet the needs of his
children but that it must serve his grandchildren and
his great grandchildren."

Unified School District No. 373, Harvey County, Newton, Kansas is faced with a need for providing additional school facilities in order to serve more adequately the student population in their district.

As a result of this need, Superintendent Kinder and members of the Board of Education asked a member from the School Facilities Section, State Department of Public Instruction, Topeka, Kansas and a member of their architectural firm, John Shaver and Company, Salina, Kansas to take a look at the Newton public school facilities and to offer a solution for improvement.

G. W. Reida, Director, School Facilities Services, State Department of Public Instruction and John Smutz, Partner of the John Shaver architectural firm, Salina, Kansas met with Superintendent Kinder and other administrative staff members Wednesday, November 30, 1967 for the purpose of visiting and evaluating the Newton public school facilities.

Since it would require some three or four months to make and publish a comprehensive educational school survey for Newton, Superintendent Kinder and the Board of Education asked for two alternative long-range proposals. As a result of the above suggestion, this report consists of eight parts as follows:

1. Preface
2. Introduction
3. Planning an Educational Environment
4. Standards for Evaluating Existing School Facilities
5. A Brief Analysis of Needed Improvements for each Newton Public School Plant
6. Curricular Trends that Influence Facilities
7. Suggestions and Recommendations
8. Conclusions

INTRODUCTION

"An invincible nation is a nation of invincible people, united -- for life, liberty and the pursuit of happiness. What people? All the people? Yes, but each. We unite for the good of the person. In our nation the most important number is '1' - the single individual.

It is the individual that counts. The growth and strength of our nation depends upon how effectively we can produce strong individuals. We do this through education. This leads us very quickly to a second conclusion. The most important word in America is 'education.' So we have '1' for the number, 'education' for the word.

But what is education? Many things. But for one thing, it is a process, sometimes continuous, sometimes continual, but never ending. The path of educational experience is like a volute - ever expanding - the symbol of growth and development." William Wayne Caudill.

A dramatic change is taking place in education. Today, the rapidly changing world of technology is placing an even greater demand upon education. Each succeeding year brings with it greater responsibility for more learning at a greatly increased rate. With the need for a better and more intensive education, our school districts need better and more efficient facilities for the students and teachers in which to work and study.

There seems to be a great deal of valid information pointing to the fact that children respond better in classrooms having good environmental features. Some psychologists believe the students' entire behavioral pattern depends upon his reaction to the environment in which he is placed. Thus, part III of this report explains in brief some of the environmental factors which should be considered in planning and constructing new school buildings.

PLANNING AN EDUCATIONAL ENVIRONMENT

In the past, architects frequently designed a rather, symmetrical interior for a school building and then cut it up into classrooms. Very little thought was given to the function of the building or the physical and psychological impact of the building upon its occupants. Schools had monumental exteriors and monastically austere interiors. When painted at all, they received colors which would not show the dirt.

Architects are now drawing upon many resources for the planning of buildings today. Months of study with the school officials, staff and citizens committees precede the actual drawing process. Each building is a custom job and must be designed only after a tentative school program is developed based on the local community philosophy and needs. Space is allotted for each type of educational activity and service. Then the proper relationship of these areas one to another is determined so the building can be functional. Thus, the floor plans emerge. Finally, a wrapper is put on the building so that it will fit into its surroundings. Its beauty will express its function and balance will be obtained through an artistic combining of mass, materials, and color. This is called planning a school building "from the inside out."

The planning job, however, is not as simple as the previous statements might indicate and very definite principles must be applied.

We must realize first that the whole child goes to school. He goes to school as a total functioning organism, socially, emotionally, physically and mentally. All of these facets of the child are interdependent and inter-correlated. It is quite impossible to be happy just in the mind. This happiness is reflected throughout the human organism and, in fact, may be caused by some pleasurable sensation or some social acceptance, or may be caused by some purely imaginary experience. Emotions permeate the whole body and condition the activity of every portion of the body. People can

become blind with anger and even paralyzed by fear. So we find that human beings act as total functioning organisms and their acts conditioned by a great number of factors such as what they eat, what they wear, the environment they are in, social contacts and general physical and mental health.

School facility planning involves the planning of that part of the educational environment developed and/or utilized under the direction of the duly elected or appointed school officials. There are three important aspects to this educational environment; the physical impact of the environment upon the human being, the psychological impact of the environment, and the educational arrangement of the environment. They are definitely interrelated and very difficult if not impossible to completely isolate. However, an attempt is made here to treat them separately in order to simplify the problem as much as possible.

The physical impact is probably the most important and definitely has been given attention longer than any other aspect. Beyond a more or less refined stage of protection from the elements, the physical impact has been given little attention primarily because the human being has been thought of as being very adaptable to this environment. In fact, a living organism has had only three choices down through the ages; it must adapt to its environment, change its environment (or move to another environment), or die. Man has survived for so many centuries because he has been very adaptable and also ingenious enough to make changes in his environment. Adaptation is always energy consuming. The more body energy consumed in adaptation, the less body energy left for making changes or purposeful living. Fortunately, man has been able to adapt himself and had enough energy left over to make changes in his environment. These changes have released more energy for further changes until he now can surround himself at most any time with the thermal, visual and acoustical conditions he desires. The technical "know how" is available but unfortunately the application of this knowledge is woefully lacking.

Most of our knowledge of the world outside of our bodies is obtained through our eyes. With considerable effort of "straining" man can see under adverse or trying conditions of glare and improper lighting. Yet when he is doing this, he is using body energy which could be better used for body repair or purposeful living.

Man can also adapt himself to very poor acoustical environment. In rooms having bad sound reverberations, frequently people sit up straight, cup their hands to their ears, and "strain" to hear. Besides being annoying, this whole act requires excessive body energy just for hearing.

Man frequently has to adapt himself to his thermal environment. We may shiver to stimulate the circulation of the blood in certain part of our body subjected to the cold. We may perspire excessively when our environment is too warm. Either of these two acts not only is distracting but requires body energy.

Even the furniture can require excessive use of body energy for adaptation. Sit in a chair too high, too low, or in some other way uncomfortable, and you will notice that certain muscles are taut; that you are making an effort to adjust to a position giving you some degree of comfort. If you persist in the use of that type of furniture, then the body makes more permanent adjustments so as to require less effort for adaptation. These more permanent adjustments become deformities.

The psychological impact of the environment upon man is more difficult to analyze. This is due to the fact that the emotional status of the individual has much to do with this psychological impact. This emotional status can change rapidly because of ideas, fancies, rejections, words, tones, body chemistry and many other things too numerous to mention here. These are things that the school building planner cannot control so he must be content with the things he can control. Color is definitely a part of the psychological

environment. Color as well as the total environment can be considered stimulating, relaxing, neutral, or depressing. We are not interested in designing a depressing environment, but we should be interested in the other three. Without a doubt, adjustment of an emotional or psychological nature also requires excessive body energy.

We see that adjustment to both the physical and psychological aspect of our environment normally require considerable bodily energy. Studies have been made which tend to show that the use of body energy for adaptation in what is usually considered a good classroom actually deprived human bodies of the requisite amount of energy needed for body repair. Further research may prove even astounding however logical. Regardless of the degree of body depletion accepted as a fact by the reader, it easily demonstrated (a) that adaptation of one's environment requires body energy, and (b) that energy might better be used for purposeful living, in a vocation, for recreation or for study. Let it not be said that the author advocates an environment requiring no human adaptation. Some adaptation, adjustment or accommodation is desirable to keep the body adaptable; however, this does not have to be in the schoolhouse. Generally speaking, it can be said that the environment which requires a minimum of body energy for more adaptation and thereby releases a maximum amount of energy for purposeful living is the best educational environment. The proper planning of any educational facility must perforce use this principle.

The need for the educational arrangement or the functional planning of the school plant is now an established fact. Various types of activities and school programs require various sizes and types of space. There is no such thing as a standard classroom today. Classrooms--commonly thought of as educational areas with a ceiling, a floor and surrounded with walls--must of necessity vary in size. They must be planned for specific uses and, at the

same time, be designed to be adaptable to other uses if need be. These areas not only must vary in size but also must vary in relationship one to another due to the needs of the community and the resultant effects on the school program. One school may require a cafeteria while another may not. One school may become the center of community recreation while another need not. One community may require agriculture with an extensive evening program while another is more urban. So good school facility planning will take into account all the local needs and yet provide flexibility.

Modern school facility planning must give consideration to the following aspects:

1. The whole child goes to school. He goes to school socially, emotionally, physically and mentally.
2. The environment must require an expenditure of a minimum of bodily energy for mere adaptation.
3. The educational spaces must be functional both in size and in relation one to another, yet be adaptable to change.

STANDARDS
for
EVALUATION OF EXISTING SCHOOL FACILITIES

In making judgments related to the future needs of a school district, existing facilities of the district must be evaluated in terms of their site adequacy, location adequacy, educational adequacy, and structural adequacy. In determining the effectiveness of a particular school building, structural soundness is often the only criterion applied. Except in the case of a fire, a flood, or an earthquake, school buildings seldom become structurally unsuited for attendance. If evaluated in terms of site adequacy, location adequacy, and educational adequacy, many school buildings fall short and perhaps should have been abandoned or rehabilitated years ago. "Most school buildings become obsolete long before the structures themselves deteriorate."¹ Educational adequacy, site adequacy, and location adequacy should take precedence over structural adequacy when considering the rehabilitation or abandonment of a school building.

As stated in the Introduction, this is not a comprehensive facility survey; neither is it an evaluation of each plant, building or classroom. The purpose of this part of the report is to make available to the superintendent, board members, and community some existing school facility standards. The standards as quoted herein are primarily based upon recommended standards as determined by the National Council on Schoolhouse Construction.² The local school district's philosophy and desires may cause these standards to be modified but the standards do provide a basis for the evaluations that were made and are defined in the format that follows:

I. SITE

A. Site Size: Site size is influenced by the number of students and

¹Benjamin Handler. "Economic Planning for Better Schools." Ann Arbor: Publications Distribution Service, University of Michigan.

²National Council on Schoolhouse Construction. "NCSC Guide for Planning School Plants," 1964 Edition.

the educational program that is offered in a school. The site sizes recommended by the National Council on Schoolhouse construction, 1964 edition, are:

1. Elementary schools: A minimum of 10 acres, plus an additional acre for each 100 pupils enrolled.
 2. Junior high schools: A minimum of 20 acres, plus an additional acre for each 100 pupils enrolled.
 3. Senior high schools: A minimum of 30 acres, plus an additional acre for each 100 pupils enrolled.
- B. General Playground Area: Outdoor instructional areas for elementary children should include space and facilities suited to the children's particular developmental needs, interests, and abilities. Outdoor facilities for the primary children may include sandboxes, informal and low organized games, and appropriate physical development apparatus, such as climbing structures. Upper elementary children require an activity area larger than that provided for primary children.
- C. Hard-surfaced Area: It is desirable that every playground have a sizable hard-surfaced area (of no less than 3500 square feet) for use during inclement weather and for pupil activities. This area should be connected to sidewalks and should have some provision for sheltering the pupils from the weather.
- D. Landscaping: Attractive school grounds enhance opportunities for general cultural development and tend to create pride in both the school and community. Generally, school grounds should be landscaped in an informal manner with plants which are indigenous to the locality.
- E. Incinerator: It is recommended that provisions be made for incinerators in the building when planning a building. If outdoor incinerators are used, they should be located away from playground areas

and buildings and should be enclosed by a fence. The area surrounding the incinerator should be kept free of debris.

- F. Parking: Parking space on school grounds should be provided for school employees who travel by automobile, for pupils permitted to drive, for visitors, and for school buses which are not used during the day but which remain at the school. In some localities, the parking area should be hard-surfaced. Traffic and stall lanes should be marked to guide drivers. Because of special hazards involving groups of children of varying ages, approaches to the parking spaces and roads therein should be laid out to minimize dangers. Appropriate bicycle storage should be maintained apart from the automobile parking area.

II. LOCATION

- A. School Population: Educational facilities should be located near the center of the attendance area they are to serve. The site should be appropriately located within the pattern of existing and future school facilities.
- B. Zoning: School sites should not be located where zoning permits construction of unsightly factories, congested business centers, and/or railroads. These conditions will not only deteriorate the attractive appearance of a school but also will create a poor environment for an educational facility.
- C. Traffic: Approaches to school grounds should not require pupils to cross main traffic arteries, railroad rights-of-way, or heavy business or industrial traffic. Adequate space for safely loading and unloading pupils transported by buses should be provided on the school site. School buses should enter loading spaces from side streets and should not be routed across frequently traveled

pedestrian paths. The site should be accessible from feeder streets and roads to simplify safety procedures for loading and unloading transported pupils.

- D. Transportation: The following one-way travel times on conveyances are considered reasonable maximums for transported pupils: (1) one-half hour for elementary school pupils and (2) one hour for secondary school pupils. In more sparsely populated areas, greater traveling times are considered reasonable.
- E. Expansion: Many school districts lack foresight in selecting adequate sites. Purchasing sites large enough for expansion will save the district money in the long run when expansion becomes necessary.
- F. Drainage and Topography: A site should not be located in a flood plain or in an area subject to serious crosswashing due to seasonal deluges. School sites should have an adequate drainage system. Geological and topographical hazards, such as rivers, swamps, wooded areas, land faults, poor contour, and/or poor subsurface conditions should not be on or near a school site.

III. EDUCATIONAL

A. General Classrooms:

1. Size: Elementary classrooms should contain a minimum of 30 square feet per pupil and the desirable maximum number of pupils per room should not exceed 30. Kindergarten rooms should contain 50 square feet per pupil, and the desirable maximum number of pupils per room should not exceed 25. Senior high school general classrooms should contain at least 30 square feet per pupil and a maximum number of 25 students per room. Junior high school general classrooms

should contain at least 30 square feet per pupil and a maximum number of 28 students per room.

2. Visual Environment: This includes the investigation of artificial lighting and natural lighting. Regardless of the type of lighting used, artificial or natural, glares should be avoided, and the light should be evenly distributed throughout the room. Window shades that are adequate to prevent glare from sunlight should be provided in each room.
3. Acoustical Environment: This refers to the overall noise level of the rooms. Provisions should be made in each room through ceiling tile, acoustical ceilings, and/or acoustical floor covering to minimize noise and distractions. Room echoes are not desirable. Floors, walls, ceilings, and partitions should be adequate to reduce the noise level for promoting a good teaching-learning atmosphere. Student concentration should be possible.
4. Work Environment: Furniture and equipment should be adequate for the age level using the room and should meet the requirements of the activities taking place. Adequate closed storage for supplies and teaching aids should be located in each room. Attractiveness and pleasantness should be promoted by the design and interior decoration of the room. A double electrical outlet should be appropriately located in each wall.

B. Special Classrooms and Laboratories

This refers to teaching stations designed especially for such subjects as art, business education, home economics, industrial arts, languages, mathematics, music, physical education and science. These rooms are not readily interchangeable with other subjects

and are usually more functional if devoted to the activity for which they were designed. All special classrooms and laboratories should fulfill the same visual, acoustical and environmental features as enumerated for the general classrooms. The size recommendations are as follows:

1. Art: A reliable gauge for planning an art room is to allow 50 to 55 square feet of floor space per student exclusive of storage space. Classrooms should be planned to accommodate a maximum of 20 students at the senior high school level and 24 students at the junior high level.
2. Business Education: The size of each room should be determined by the type of facility, number of pupil stations, kind of furniture, equipment and class activities desired. Normally, the rooms should be of sufficient size to allow 30-40 square feet of floor space per student exclusive of storage space.
3. Home Economics: A good home economics department will require several centers each equipped differently to meet the instructional needs of diverse educational objectives. The size of these centers will vary according to the amount and size of equipment used and to the number of students. It is usually well to allow approximately 80 to 100 square feet of floor space per student exclusive of storage.

A school having a one-teacher department should have an all-purpose room area of at least 2000 square feet; a school with a two-teacher department should have an area equal to at least 2700 square feet of floor space; and a school with a three-teacher department should have an area of at least 3780 square feet of floor space.

4. Industrial Arts Shops: All the spaces listed below are exclusive of storage space:

	<u>Square feet of floor space per student</u>
General Shops	100 - 125
Woods	100
Metals	125 - 150
Drafting	50 - 75
Power & Auto Mechanics	100 - 150
Electricity & Electronics . . .	75
Plastics	100
Graphic Arts	100 - 125

5. Mathematics: The size of a math classroom is determined by two major factors: the number of students to be accommodated and the types of activities for which the room is used. A math classroom used primarily for presentation and discussion purposes should have 30 square feet of floor space per student with a minimum size of 800 square feet per room. Individual project work in math may be carried on by the students in a separate laboratory or workroom or it may be carried on in the classroom if an appropriate area of 200 to 300 square feet of space is provided in the classroom for this purpose. Such a classroom should have a minimum of 1000 square feet of floor space.

6. Modern Foreign Language Facilities: The current trend in developing foreign language facilities is to provide an electronics classroom. A classroom of this type might be termed a multi-use area in that it will serve as both laboratory and classroom. The room should be 900-1000 square feet in size and provide sufficient stations for the largest class with two to five extra stations as a standby in case of equipment failure. A school utilizing the booth type installation for laboratory

purposes should have two foreign language classrooms - one general and one laboratory. Such classrooms should have a minimum of 30 square feet of floor space per student. The general classroom would be used for recitation purposes and for introducing new material in listening and speaking for later practice in the laboratory.

7. Instrumental Music: The instrument room is usually the basic center in the music department and special rooms and auxiliary spaces should be planned to extend its usefulness. The instrument room should be sufficient in size to allow at least 22 to 24 square feet of floor space per student and a ceiling height of at least 14'.

Vocal Music: Exclusive of storage, the vocal music room should have approximately 18 square feet of floor space per student and a ceiling of not less than 14' in height.

8. Physical Education: Normally all secondary schools should have the following stations: (1) basic gymnasium, (2) auxiliary gymnasium (when an extra teaching station is needed), and (3) health classroom(s). Large schools may provide special purpose teaching stations such as gymnastics room(s); wrestling room(s); rhythmical activities room(s); and swimming pool. Locker rooms are not considered teaching stations.

Outdoor facilities are not considered teaching stations for scheduling purposes but are in practice alternate teaching stations subject to the weather and the local program for their instructional and recreational use.

A teaching station is a space of sufficient size to accommodate one teacher instructing one class group at a time. Sufficient

teaching stations of the type needed for the subjects should be provided to permit scheduling and such separation by grade and sex as is required for the program. Class size for health classrooms should be comparable to that of other subjects. There should be at least 30 square feet of floor space per student. The size of the floor area usually necessary for physical education activities should be equal to 200 square feet of floor space per student.

A standard size swimming pool is 45' x 75'1" with six swimming lanes each 7' wide and $1\frac{1}{2}$ ' clearance for each outside lane. Usually depths are a minimum of 10' at the diving end and a minimum of 3'6" at the shallow end. (The pool floor should be about at grade level of the ground.) The pool should have a ceiling height not less than 16' in the clear.

It is usually recommended that locker-dressing rooms be located on the gymnasium floor level directly adjacent to and connecting with the gymnasium floor. Each locker-dressing room should have a floor area of approximately 24 square feet per student based on the largest number of pupils using the locker room at any one period of the day including football practice.

9. Science: In Kansas, science rooms are usually equipped to provide both classroom and laboratory instruction in a single classroom-laboratory unit. Some of the smaller secondary schools must of necessity provide a multi-purpose classroom-laboratory equipped with facilities for instruction in several science subject areas. It is recommended that a classroom-laboratory unit have at least 50 square feet of floor space per student and auxiliary facilities of at least 300 square feet of floor

space. Normally this would be a classroom of at least 1400 square feet of floor space.

C. Central Facilities: This refers to administration facilities, cafeteria, health rooms, libraries, and teachers' rooms.

1. Administration: Flexibility is highly essential in the administration offices. Easily removed interior partitions should be used for administration offices. The flexible partitions should not sacrifice acoustical efficiency, privacy, or attractiveness. Adequate lighting and ventilation and special wiring for phones and electrical service outlets are requirements for a desirable facility. The administration offices should feature hospitality through pleasant and attractive designs and should be easily accessible by pupils, teachers, parents, and the public. The offices should also have a pleasant reception area. Storage for school supplies and office equipment should be adequate. Fireproof storage should be provided for school records.
2. Cafeteria: Cafeteria facilities should be provided for the hot lunch program in each school, or an adequate area should be provided when food is brought from a centralized food preparation center. Ventilation, independent of the rest of the building, should be provided. Special exhaust fans should be located over cooking units.
3. Health Room: Provision should be made for an area large enough for more than one bed and should contain restroom facilities. This area should be located for ease of supervision. Accommodations should be made for privacy when the room is occupied by two or more pupils.
4. Instructional Materials Center (Library): The library is the

center for the instructional program in the modern school. Its functions have multiplied in recent years to include the housing of all types of learning materials and equipment for pupils and teachers. The library is now a station for the simple tools of research as well as for the more traditional library functions. Included in the instructional materials center are such materials as books, magazines, pamphlets, pictures, filmstrips, slides, recordings, and tapes. Also included is such equipment as many types of projectors, discs and tape recorders, portable television, and radio sets. Because an instructional materials center unifies all functions relating to instructional materials, it is also the logical area around which certain learning activities should be organized. These activities should include library instruction, individual and group research and study, reading and browsing, small-group conferences, auditioning, and viewing of many kinds of audio-visual materials. The instructional materials center should be organized to provide students and instructors with library materials and services as the need arises. Because of the numerous purposes the instructional materials center is to serve, it should be located centrally for the efficient distribution of equipment and materials and for convenient use by teachers and students. Features of the center should be flexible. The arrangement of the center should provide for isolation of the noise-producing areas such as classrooms and reading areas. Within the center, reading and study areas should be provided for both individual and group use. Individual study cubicles providing secluded study opportunities are desirable in secondary schools. Adequate storage for materials and equipment should be provided.

5. Teachers' Room: This facility should contain adequate storage for supplies and teaching aids, duplicating machines and materials, a professional library, restroom facilities, and an adequate amount of work space in a pleasant and attractive atmosphere.

IV. STRUCTURAL

- A. Fire and Safety: The facilities should have adequate fireproof fire escapes; procedures for building evacuation; fire extinguishers; alarm systems; safe stairs and floors; proper location of incinerators; proper storage for combustible materials; safe equipment; and safe, adequate traffic flow.
- B. Water and Sanitation: This refers to the source and purity of drinking water, the adequacy of sewage and garbage disposal, the condition of drinking fountains and restrooms, and the general cleanliness of the buildings and grounds. Restroom fixtures should be related to the maturity and size of pupils served. Mechanical exhaust ventilation with ducts separated from other rooms is necessary to provide adequate ventilation and to minimize the accumulation of odors in all restrooms.
- C. Structural: This has reference to the foundation, walls, roof, and other basic components of the structure - i.e., brickwork, joints, wood, and steelwork. The evaluation team members are not structural engineers and recorded only noticeable defects in structure. Any defects noted in this report should be inspected by a competent structural engineer.
- D. Thermal Environment: The building should be heated so that there are no undesirable "hot" and "cold" areas. Heat should be controlled from individual rooms. Rooms should be ventilated adequately. Room temperatures should be constant.

E. Maintenance: The facility should be clean and well-maintained.

Adequate storage should be provided for custodial supplies. A work shop should be provided for the maintenance staff.

A BRIEF ANALYSIS OF NEEDED IMPROVEMENTS FOR EACH
NEWTON PUBLIC SCHOOL PLANT

It must be emphasized that the "tone" of a school facilities appraisal tends to be somewhat critical. This is the nature of any true study that attempts to objectively evaluate school facilities. For that reason it is being pointed out that no person, group of persons, or community should interpret these comments as a condemnation of the board of education, past or present, administration, or community in their efforts to provide good educational facilities for the boys and girls in the district.

In order to facilitate the location of each school plant, a city map of Newton and North Newton is being enclosed. Each school site is identified by name as well as by an arabic numeral on the map.

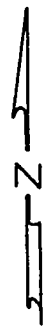
Following is a list of the Newton public schools and some of the building needs:

- I. Sunset Elementary School, 619 Boyd Street, has a site of 10 acres, houses grades K-6, and has an enrollment of 275 pupils.
 1. Install awning on west side of north building
 2. Build cabinet on north wall of Room 1
 3. Install folding doors in auditorium
- II. Lincoln Elementary School, 406 West 6th Street, has a site of 1.5 acres, houses K-6 + reading center, and has an enrollment of 323 pupils.
 1. Intercommunication system
 2. Restrooms on 3rd floor (boys and girls)
 3. Remove partition at entrance of rooms: 4, 101, 104, 105, 201, 204 and 205
 4. Glass door at each outside entrance
 5. Drinking fountain and sink in each classroom
 6. Relocate reading center to room 206 or make 206 an extension of the learning center
 7. Storage for library supplies in or near library
 8. Wall display cases (lighted) in library
 9. Music room carpeted and acoustics improved

1. RAMADA INN
2. PRAIRIE VIEW HOSPITAL
3. NAMCO INDUSTRIES
4. CLARK SUPPLY CO.
5. KANSAS CHRISTIAN HOME
6. BETHEL HOSPITAL
7. BETHEL HOME FOR AGED
8. CEDAR VILLAGE FRIENDLY ACRES
9. PRE-STRESS CONCRETE
10. AMERICAN COACH CO.
11. GUERDON INDUSTRIES
12. GENTSCH FURNITURE
13. KOCHTON PLYWOOD
14. WOOD PRODUCTS CO.
15. PHILLIPS INDUSTRIES
16. STEVENS SPRING CO.
17. MODERN METAL, INC.
18. RADIO STATION KJRG
19. METHODIST YOUTHVILLE
20. NATIONAL GUARD ARMORY
21. POLICE STATION
22. FIRE STATION # 1
23. FIRE STATION # 2
24. CITY OFFICES
25. U.S. POST OFFICE
26. SANTA FE DEPOT
27. GUEST HOUSE CAFETERIA
28. COURT HOUSE
29. AXTELL HOSPITAL
30. AMERICAN FLOURS, INC.
31. PRESBYTERIAN MANOR
32. MEADOWLARK HOMESTEAD
33. HEHR MIDWEST

CITIES OF NEWTON AND NORTH NEWTON

OFFICE
OF THE
CITY ENGINEER
NEWTON, KANSAS



10. Drapes for library
11. Remove one-half partition in kindergarten room 105
12. Drinking fountain, portable screens and dividers for kindergarten room
13. Improve lighting in all rooms except reading center
14. Auditorium marked and equipped for physical education
15. Bookshelves for each classroom
16. Blinds for darkening rooms in each classroom
17. New venetian blinds in most of the classrooms
18. Light in large closet in room 206

III. Cooper Elementary School, 816 Oak Street, has a site of 1.9 acres, houses K-6 + reading center, and has an enrollment of 266 pupils.

1. Refinish furniture including pupil desks
2. Building renovation
3. Improve lighting in each room and office
4. More room for library, lunchroom, workroom, visual aids storage and classes
5. More electric outlets in each room
6. Air condition or place sufficient fans in building
7. Book storage room in each building for rental books
8. Increase the number of special education rooms and facilities
9. Increase science teaching facilities with adequate storage space

IV. Roosevelt Elementary School, 701 East Broadway, has a site of 1.9 acres, houses K-6, and has an enrollment of 314 pupils.

1. Three additional classrooms
2. New ceilings lowered in old classrooms and four restrooms
3. Lighting improved in above rooms
4. Ceilings in halls, stairways, and restrooms need to be lowered
5. Office needs work
6. Drinking fountains need to be replaced on both floors
7. Storage space

V. Northridge Elementary School, 1900 Windsor Drive, has a site of 7 acres, houses K-6, and has an enrollment of 199 pupils.

1. Installation of all-weather playground
2. Storage for primary rooms
3. Eliminate glare and heat caused by sun in diagonal buildings
4. Repair windows in primary rooms
5. Screen for windows
6. Built-in coat closets and more storage
7. Air condition or silent commercial fans
8. Building expansion program to meet needs of library, physical education, work space, activity and lunch program

VI. McKinley Elementary School, 308 East First Street, has a site of 2.8 acres, houses K-6, and has an enrollment of 248 pupils.

1. Partition in auditorium
2. Paint the basement
3. Lighting - auditorium, workroom, office, kindergarten and basement
4. Storage for custodian
5. Have eight classrooms and will need nine

VII. Washington Elementary School, 400 Old Main Street, has a site of 2 acres, houses K-6 + reading center, and has an enrollment of 240 pupils.

1. Increase library area
2. New ceilings lowered in old classrooms and four restrooms
3. Lighting improved in the above rooms
4. Ceilings in halls, stairways and restrooms need to be lowered
5. Office needs work
6. Drinking fountains need to be replaced on both floors
7. Storage space

VIII. South Breeze Elementary School, 1020 Old Main Street, has a site of 5 acres, houses K-6, and has an enrollment of 248 pupils.

1. Storage for custodian
2. Folding doors for auditorium
3. Drapes for windows in auditorium

IX. Chisholm Junior High School, 900 East First Street, has a site of 37 acres, houses grades 7, 8, and 9, and has an enrollment of 503 pupils.

1. Increase area of library, home economics and art rooms
2. Practice rooms for speech classes (isolated area)
3. Practice rooms for vocal music
4. Shop facilities are inadequate for storage of materials
5. A fine arts building to accommodate home economics, speech classes, vocal music and art
6. An auditorium to serve student programs
7. Storage space within classrooms
8. Redecorate all buildings
9. Drinking fountains are needed to relieve congestion
10. Storage shelves in gym
11. Surface in front of red, yellow and blue buildings

X. Senior High School, 120 West Broadway, has a site of one-quarter block, houses grades 10, 11 and 12, and has an enrollment of 912 pupils.

1. Lighting in library
2. Remodel workroom to provide a teacher planning room and faculty library
3. Additional shelving in library
4. Carpeting the library
5. Replace warped battens stage of Lindley Hall
6. Acquisition of cotton duck drop for Lindley Hall stage
7. Repaint interior of Lindley Hall in light color
8. Two refrigerated water fountains on each floor of senior high
9. A separate bell and time system for senior high, industrial arts building and vocational building - separate from Santa Fe Junior High
10. New floor in Lindley Hall wrestling room
11. New walls in Lindley Hall wrestling room
12. False ceiling in Lindley Hall wrestling room
13. Lighting in rooms, 200, 312, 308, 304, 106, 100, 108, 109, 309, 313, 103A, 110, 201, 301, 302, and 303

14. Electric outlets at back of rooms 312, 100, 307, 304, 102, 110, 202, 300, 301, 302, 206, and 303
15. Paint rooms 312, 308, 307, 300, 301, 302, 206, 303
16. Air condition rooms 100, 106, 102, and 110
17. Improve wiring room 106
18. Built-in cabinets 102, 105
19. Windows repaired rooms 312, 303
20. Repair blinds in rooms 110, 202
21. Storage - counselor's office Senior High
22. Install open-faced shelving, south wall of reception room in counselor's office
23. Remove storage cabinet along east side of reception room, replace with equivalent, topped with two rows of bookshelves
24. Seal off all windows, soundproof and air condition the choral room 203
25. Eliminate the wall between two closets in room 203 to improve music library and storage facilities
26. Partition room 204 into three practice rooms
27. Construct large permanent drum storage cabinets on east wall of bandroom 205
28. Rebuild or replace the uniform storage cabinets in 205
29. Rebuild existing instrument storage facilities to accommodate modern case design in a more practical manner
30. Partition one end of the choral room for a choral ensemble room
31. Lower present ceiling - vocational building
32. Improve lighting in vocational building
33. Install drapery on north wall to cover present glass window partition in vocational building
34. Book shelving in cooperative industrial training classroom
35. Improve cloak hanging area in main hall of vocational building
36. Install electric wall outlets in vocational building
37. Install electric floor outlets in vocational building
38. Storage cabinets - west and east wall areas in vocational building
39. Improve office lighting in vocational building
40. Larger shop in vocational building
41. Ventilation in shop is poor - vocational agriculture building
42. More storage space for student clothing in vocational building
43. Additional room, classrooms, storage area and combined office for industrial arts teachers during planning periods - machine shop
44. Storage shelves in stockroom - industrial arts
45. Lower ceiling - electricity room in vocational building
46. Lighting improved in electricity room, vocational building
47. Paint room (electricity room)
48. Electrical outlets for safety glasses cabinet - electricity room
49. Larger building - auto mechanics
50. Roof leaks fixed in auto mechanics
51. Windows fixed in auto mechanics
52. New electric wiring in auto mechanics
53. Electrical outlets in auto mechanics
54. New exhaust and ventilationsystem in auto mechanics
55. Two loads of rock to fill water holes on parking lot
56. New large tool room in auto mechanics
57. Need larger office in auto mechanics
58. New lighting in auto mechanics
59. Parking lot markers for area and Newton students that drive in
60. Need 2 x 4 board at back door to keep water from running in back door in auto mechanics

61. Need a new lock and hydraulic door closer on front door in auto mechanics
62. New more electrical outlets in auto mechanics building
63. Storage cabinets on false door, west side of shop
64. Install steel rod on pillars on both sides of false door
65. Shelf area enclosed rooms 300, 301, and 302
66. Fix roof leaks - room 300
67. New tile floor - more pleasing color room 303
68. Supply room back of shop for lumber storage, project storage, and finishing of projects - industrial arts building
69. Inadequate heating in drafting room
70. Using room 308 as second biology classroom rather than room 313
71. Storage facilities rooms 309 and 313
72. Air condition room 313 and 109
73. Ventilation improved rooms 313, 309 and 108
74. Repair sink traps in room 108
75. Locking doors on chemistry storage shelves between rooms 108 and 109
76. Light for present fume-hood in room 108
77. Shelving installed in chemistry darkroom between rooms 108 and 109
78. Additional shelving in physics storeroom between rooms 108 and 109

XI. Santa Fe Junior High School, 117 West 7th Street, has a site of one-quarter block, houses grades 7, 8 and 9, and has an enrollment of 482 pupils.

1. Storage for study prints and flat pictures in library
2. Shelving under north windows of library
3. Lighting in library
4. Lighting in all classrooms with exception of rooms 13 and 14.
(This includes junior high gym and stairways of building)
5. Electrical outlets in all classrooms with exception of rooms 13 and 14
6. Remodeling of junior high dressing room used by varsity team
7. "Santa Fe Junior High School" sign on north exterior wall of building
8. Ceilings in halls of building and classrooms
9. Construct storage cabinets in southwest corner of room 33
10. Running water and a drain in room 35
11. Storage space for science laboratory equipment in room 35
12. Central switches so half of lights in room can be off without a total "black-out" in room 13
13. Acoustical tile ceiling in room 14
14. Carpet for developmental reading laboratory room 14

CURRICULAR TRENDS THAT INFLUENCE FACILITIES

A school building is more than shelter for students and teachers as they proceed with the business of education. It is an essential teaching tool. Properly planned, the schoolhouse enhances the educational program. Improperly planned, it impedes educational progress. Although no one can legitimately argue that buildings are more important than good teachers, an abundance of research demonstrates that even good teachers cannot do their best work if they do not have proper tools.

Since the primary function of a school building is to house an educational program (indeed, a positive contribution to the teaching-learning process is its only justification for existence!), it follows logically that school buildings must be appraised with reference to their potential contributions to education. The following is not an attempt to stipulate a desired curriculum for Unified School District No. 373, Newton, Kansas. It is, however, a discussion of trends in desirable educational programs which suggest modifications for older buildings and considerations when planning new buildings.

In all of this discussion we keep in mind two basic assumptions which we make about education in this district. These are:

1. The people of this school-community desire to provide equal educational opportunity for all boys and girls in the district (as near as efficiently possible).

2. The people of the community desire to provide education which will equip the youth to take their rightful places in society wherever they may live -- i.e., to participate fully as citizens and to "compete on the open market" for economic opportunities. If either of these assumptions is invalid, then the entire study is meaningless.

If these assumptions are justified, however, then we can describe certain essential characteristics of good education -- regardless of the specific pattern of course offerings -- which have profound implications for the planning and evaluation of buildings. Indeed, only in this context can facilities be properly appraised and future needs defined.

Elementary Education

The breaking away from the learning situation in which the teacher was a task-master and the chief virtue of the pupil was to sit still and keep quiet, to a new pattern in which children are encouraged to be active, has forced the abandonment of the standard classroom with its fixed seating, dark wood finishes, and "light over the left shoulder."

The most significant difference between the earlier elementary school program and today's program is the replacement of passive learning with active learning. The elementary program reflects an emphasis on techniques and methods designed to meet the individual needs and abilities of the students through a varied approach necessitating activity and self-discipline on the part of the pupil.

In a good learning situation, there are pupil-teacher relationships in which individual conferences and group discussions help each child to clarify his own goals in relation to the total school goals. This, of course, implies curriculum planning to provide for the individual attention and has specific implications for building design. Teachers and students are being given individual work spaces.

Tomorrow's teacher will assume responsibility for that part of the day's program for which she is best qualified, particularly in the upper grades. Teachers and students will likely be moving from one area to another, thus requiring a greater variety of and accessibility to school spaces. Children will be grouped as the need arises in smaller or larger groups.

The implication for this is for greater flexibility in our buildings. This will require more than just operable walls between classrooms. It implies a type of area that can be further adapted should new teaching methods give way to even newer ones.

Although only a small amount of materials is now available, the use of programmed materials is gaining momentum. These materials are now available in several areas including reading, arithmetic, and spelling. The use of these materials will accelerate the trend toward individualized instruction.

The future use of audio-visual techniques will de-emphasize group viewing of slides, filmstrips, and movies. Equipment which permits viewing by an individual or a group of such learning aids as filmstrips, microscope

slides, transparencies, slide films, and programmed texts is a reality. Simple controls will increase the usability of devices by younger students. High quality screens requiring a minimum of light control are now available.

Once hampered by having to provide as much daylight as possible, architects have been set free to plan for learning through the use of new lighting techniques. Windows may not have been completely eliminated but they have been reoriented allowing more vertical teaching space. Without having to worry about the vagaries of daylight, architects have been able to use new designs and new textures. Schools have been turned inward toward the problem at hand.

Since learning is an individual matter and much of the child's work will be highly individualized, he must be encouraged to utilize his total environment for his education. The environment must, therefore, provide for the student as much resource material as possible. For this reason, the learning resource centers (libraries) should be well located and all elementary schools should have central libraries. More than just libraries, they should adapt to centers for tapes, films, recordings, and projection equipment. In some instances, small instructional materials centers should be developed in units of large buildings so that supplies and materials will be more readily available to pupils and teachers.

The aforementioned concepts generate a need for cooperation between staff at all grade levels. Provision must be made in new and old facilities for easy interchange of ideas, materials, and personnel. Daily informal contacts among staff members will be increased.

The foregoing discussion does not imply that good teaching cannot or does not occur within the framework of the graded school and the self-contained classroom. Indeed, the elementary school classroom as we know it has considerable merit, especially in the first three or four years. Within this self-contained classroom, however, the content of the curriculum

must be upgraded, individual assignments must replace group exercises, and students must experience continuous progress if learning is to take place. Students must spend more of their time in individual study and in individual conferences with the teacher as well as in small-group activity. They should spend less of their time in activities involving the entire class. Students in any grade level must have a wide range of materials at their disposal, most of which they can use independently.

Whether we are exploring the nongraded or the graded vertical elementary school organization or the self-contained, departmentalized or team-teaching horizontal approach to organization, all have the same implications for evaluating existing buildings or for considering new buildings. Buildings must not stand in the way of education. They must be flexible--capable of being adapted to newer ways of more effectively educating boys and girls. They must be flexible to the point of permitting one teacher to work with groups varying in size from one student to sixty or ninety students. They must also permit these groups to change in size without confusion and needless waste of instructional time. The buildings must also expedite the personal contacts between teachers of the same grade level as well as teachers from different grade levels.

One of the alternates in the recommendations will be consideration for a "middle school" organization. Such a school organization might be a K4-4-4; a K5-3-4; or whatever combination the district deems most suitable for its use. It is being assumed that most people are familiar with the traditional junior high school; thus, a brief explanation of the "middle school" and some comparisons. The reference materials for this explanation are The Educational Facilities Laboratories on "Middle Schools" and the March 1966 issue of the NEA Journal.

Middle School Organization

To set the middle school in context, it will be useful to look briefly at the general state of junior high education today. Off to a slow start in the early 1900's, the junior high gained momentum from 1920 on, until now there are some 5000 junior high schools in the U.S. The commonest form of organization in cities and suburbs brings together grades 7-8-9 to form the middle link of a 6-3-3 system; small communities and rural districts are apt to follow the 6-6 pattern. There is a variety of other organizational patterns, including the old-time 8-4 that prevailed when Americans now aged 50 or beyond went to school and that still prevails in many places.

The first junior highs were organized early in the century for worthy reasons that almost immediately became irrelevant. In 1905, some two-thirds of all pupils quit school before grade 9 and thoughtful educators sought an institutional means to give children some rudiments of secondary education and a little vocational training. A practical answer seemed to be the creation of a new two or three year unit embracing the last year or two of grammar school, plus the freshman year of high school not rechristened "ninth grade." The original architects of the junior high conceived it as terminal education for some of the students enrolled and as a helpful introduction to high school for those equipped and financially able to continue their education.

All too often, however, the junior high took on the rigid departmentalization and extracurricular fanfare associated with high school - including excessive emphasis on interscholastic athletics, elaborate graduation ceremonies, social events, and the marching band. This development in particular has provoked growing criticism of the institution in recent years much of it self-criticism.

New developments challenge the schools at every level, of course, and not just the junior high years. But for many reasons, some already touched on, they seem to present a particular challenge to this educational backwater,

opening vistas of schools for the in-between child that may realize many of the excellent original purposes of the old junior high, along with new purposes to meet new needs and findings.

In general, the proponents of the middle school envisage a school adapted to a range of children who, rampant individualists though they are, seem to have more in common with each other than with elementary school children as a group, or high schoolers as a group. The school would assume that, in general, its population had some mastery of the tools of learning but was not ready for the academic specialization of high school (and its attendant college-preparation pressures). The school could concentrate, then, on provisions for individual differences, so long touted, so little effected by American education, taking particular account of the increased sophistication and knowledge of today's 10 or 11 to 14-year-olds over previous generation.

Many of the middle school reorganizations include grades 6, 7, and 8, a practice of long standing in some districts. Grade 6 is simply moved from elementary to junior high and grade 9 is returned to the high school.

Such a grade reorganization does not necessarily involve any change in the instructional program or methods of instruction. The departmentalized schedule and the same program of activities may carry over into the new school or grade 6 may be left on a self-contained basis and instruction for grades 7 and 8 departmentalized.

How could the program be made intellectually stimulating? Both the self-contained classroom organization of the elementary school and the departmentalized junior high school have been criticized for their lack of intellectual stimulation. The weaknesses of these organizations should be avoided in the middle school where new patterns of organization can be carefully tested.

For example, the middle school could try a team teaching arrangement in which four homeroom groups of about twenty-five pupils each share the

same four teachers. Each teacher would serve as a homeroom teacher-counselor and each would have a different field of specialization (language arts, social studies, science, or mathematics).

Such a plan would facilitate planning for individual pupils and also utilize teachers in their area of greatest interest and competence. Rather than having a routine rotation of pupils through departmentalized schedules, such sharing of instruction and flexibility of learning groups would permit pupils and teachers to know each other well and would ensure that each curriculum area is taught in an intellectually stimulating manner. In addition, the flexibility of this plan would make possible extensive use of individualized instruction including independent study.

How should learning skills be taught and emphasized? Emphasis should, of course, be given to learning skills in all studies. But the middle school might be the strategic point at which to provide extensive use of many library and other learning resources. Special learning centers could provide individualized instruction in reading, viewing and listening, writing (including typing), interviewing, problem-solving, and other skills.

What common or general studies ought to be provided? The basic subjects of the elementary and junior high schools would undoubtedly be retained in the middle school: language arts, mathematics, science, and social studies. Some schools would include the fine arts and a second language as common subjects; others would make one or both an exploratory, individualized choice area.

What exploratory experiences should be provided? The exploratory program of the junior high school has been one of its strengths; a major reason for moving children into a middle school earlier is to offer them increased opportunity for exploring many interests. In addition to exploratory experiences in such customary areas as foreign languages, the fine arts, industrial arts, and home economics, a range of interests might be served

by other experiences such as in acting, photography, personal grooming, creative writing, and in assisting in library, laboratory, lunchroom and office.

Many students could explore their leadership and vocational aptitudes by participating in various student-managed enterprises such as assembly programs, exhibits, school stores and banks, lost-and-found departments, school publications and student government organizations.

What type of an activity program should be provided? A major criticism of the junior high school is its copying of the high school activity program. Many regard the need to eliminate this program as a justification for the middle school. The middle school could probably do without an organized activity program other than the student-managed enterprises already suggested. Perhaps each instructional unit (that is, a group of four homerooms involving approximately 100 pupils) could be left to develop its own activities at least until and if enough common interests are discovered to justify schoolwide projects.

/ In larger middle schools, a "school within a school" organization might be desirable, grouping four instructional units to constitute a "little school" of 400 pupils encompassing the full age range of the school. These units could develop intramural activities for themselves and cooperate on some activities with other units within the middle school. Interscholastic athletic competition between middle schools would certainly not be permitted.

Courtyards, both open and enclosed, act in many of the middle school designs to increase the non-institutional atmosphere as well as to provide space for a wide range of activities, from solitary study and theatricals to just plain sitting. Cafeterias serve a variety of purposes before and after lunch, and are designed to counteract the rushed, smelly, unappealing stereotype of the school lunchroom. Many of the schools are introducing air conditioning into their districts and some of them carpeting. All have provided variously

for the future. By demountable walls and other means, they are planned to change if necessary either to more conventional programs or in the opposite direction.

Research may never catch up with the complex nature of this odd student for whom the middle school is designed. Among many moot questions are these: Are fifth graders better off in an elementary school or with their elders? Are ninth graders better grouped with high school students or below? What are the best ages to group together between elementary and high school? And there is a host of other unresolved questions. All of which underscores not only the necessity but the virtue of keeping prescriptions for the middle school fluid and eclectic and of hedging middle school design against the unknown and perhaps unknowable. As the ensuing profiles indicate, most middle schools are born adventitiously, for reasons primarily economic or social or even political. While it is possible to devise a detailed and convincing rationale for the middle school on purely educational grounds, any such formula lays itself open to the charge of being ex post facto and, more to the point, inflexible and unrealistic. The middle school can proceed best without generating a new orthodoxy.

Secondary Education

Much of what we have been saying about elementary education applies as well to the secondary schools, middle school grades 5-8, junior high school grades 7-9, and the senior high school grades 10-12 or 9-12. In common practice, secondary education is divided into blocks as enumerated above. This type of division, however, is strictly arbitrary and is usually determined by the existing facilities. Available research demonstrates that organizational patterns (6-2-4, 6-3-3, 6-6, 6-3-4, etc.) have no bearing on educational accomplishment -- i.e., from the standpoint of effects on students, no single organizational pattern is superior to any other. When we use the term "high school," we refer to the total secondary program however it is organized.

A comprehensive high school is the antithesis of the high school which specializes in either college preparation or vocational preparation. The comprehensive high school represents a unique American attempt to attain three major objectives:

1. To provide a general education for all students.
2. To provide elective programs for those who wish or need to use acquired skills immediately upon graduation.
3. To provide satisfactory programs for those whose vocations will depend upon their subsequent education in a technical school, college, or university.

Differences of opinion as to whether or not such a large undertaking can successfully attain these objectives have not been settled. Meanwhile, most American communities are trying to offer such education to their younger citizens.

In trying to meet these distinct objectives, the modern high school should probably avoid sharp discriminations between the "college-bound" and the "non-college bound." Rather, the umbrella should be a comprehensive program which provides for all students the opportunity for continuous study in these major subject fields: the language arts, the social studies, mathematics, fine arts, sciences, foreign language, business education, practical or applied arts, and health and physical education. For a given student, the relative emphasis among these nine fields should be determined on the basis of educational need, vocational need, interest, and present level of performance.

The language arts program places initial emphasis on the development and mastery of essential communication skills -- reading, listening, speaking, and writing. Many students have developed proficiency in these skills by the time they enter the secondary school, of course, and need no further formal skill instructions as such. They need only expanded opportunities to apply those skills in meaningful situations. The language arts program includes acquisition of these skills. (Who should study foreign languages

and which foreign languages should be studied are matters of intense debate. Currently no "right" answer is available.) The comprehensive language arts program also includes the study of all types of literature, American and foreign, both as a source of information and as a source of enjoyment.

If we want students to learn to enjoy reading literature, of course, we must create learning situations which provide enjoyment for them. Using literature as a source of information on the other hand ties the language arts to the social studies.

The social studies can be broadly conceived as a study of the history of peoples (including history in the making) and as such it requires consideration of the interrelatedness of geographic, economic, political, philosophical, and sociological factors in shaping man's course in an uncertain world. The literature, art, and music of a particular people of a given time and place provide necessary information for understanding the historical events being studied. Thus, learning about man's social development requires the services of not only the history teacher but also the specialist in literature, music, and art. In essence, the social studies program provides background knowledge for the student to project himself into the future as an adult citizen.

Mathematics is a skill subject, a tool which people use in solving problems. Most people need only simple computational skills and can be expected to acquire them at an early age. Only a relatively few require competence in the more sophisticated forms of mathematics which find application in the sciences and engineering but for those few the opportunity for appropriate study must be provided.

The study of science -- the physical sciences, the biological sciences, and the earth sciences -- provides a background for all students to understand some of the social and political problems they will face as adults: community health, conservation, nuclear energy, the race to Mars. Beyond this, a few

students require sophistication and specialized knowledge in particular sciences as these relate to vocational goals.

The fine arts afford a necessary opportunity for students to develop competence in aesthetic self-expression. Every student should have the chance to develop whatever performing talents he has but fine arts misses the mark if limited to marching bands, singing choirs, and stage production. The development of talent which can be enjoyed individually -- such as painting, sculptoring, listening to music -- is increasingly important as man's leisure time steadily grows.

The applied arts include a number of skills which persons can use vocationally -- e.g., clerical and mechanical. Many students need these skills for purely personal reasons -- e.g., typing, furniture repairing, cooking, sewing, appliance repairing. Rigid distinctions should not be made between those who need skills for personal use and those who need them for vocational reasons nor between boys and girls. The applied arts encompass the traditional labels of home economics, secretarial courses, and industrial arts (including drafting, woodworking, metal working, power mechanics, graphic arts, and electronics). While students should have an opportunity to study as widely and intensively as appropriate to their needs, we should not expect that this program will provide occupational training for a significant number of students. For many, however, this can be considered pre-vocational training.

Health and physical education stresses instruction in the maintenance of personal health (physical and mental) and personal physical fitness. All students need to acquire skills in physical activity which they can enjoy and which, therefore, can contribute to their physical fitness as adults. A continuous program throughout a student's career is more effective toward this end than one which excludes the student in the upper grades. As in all other fields, opportunity must be provided for both boys and girls to develop

their special talents, but interscholastic athletics is certainly not the heart of the physical education program.

We have described the broad areas in which students should have the opportunity to study. Each student's program, however, must be carefully planned and executed with reference to how much of a given subject he studies at a given time. This kind of planning requires a guidance service capable of dealing with the amount of diversity we can expect to find in a typical high school body.

The kind of program we have described requires a considerable amount of purposeful independent study or laboratory work (in the library, the science laboratory, the shops, the practice rooms, the art studio, etc.). It also requires a different allocation of student time to types of activities. There is a tendency to break away from the traditional one-hour class for every subject with thirty students in each class.

As time is used more flexibly, teachers can also be employed more flexibly and efficiently. An analysis of learning activities indicates that there are three types. In one the learner listens, watches, takes notes. Learning may take place through a teacher's lecture and demonstration, films, television, etc. Such activities can take place equally well if the student is alone, in a small group, or in a very large group. Because this type activity is possible in large groups, it is often called large-group instruction. This concept, however, is independent of number.

A second kind of activity is that of discussion, exchange of ideas, and group projects. Successful participation requires a rather small group. Although such activities are frequently attempted with twenty or thirty students, they are most effective with groups of four to twelve.

A third kind of activity is that of independent study, individual study, practice, and research. Such individual work requires concentration. For most such experiences, a feeling of privacy is necessary for maximum effectiveness.

Summary

In planning a building (and, indeed, in evaluating one!) attention must be given to the best use of space. It is necessary, therefore, for optimum learning situations that space be quickly and easily convertible from that necessary for one type of activity to that of another. Such conversion allows for flexible grouping so that the type of activity most suitable for the immediate learning process can be employed. Designing all areas for thirty pupils is no longer defensible.

Finally, the physical environment is vitally linked to the success of the educational program. An unhealthy, depressing, or unsanitary environment is not only harmful to children as persons but also it damages the educational process. An abundance of research supports the contention that learning takes place most efficiently in a physical environment that is aesthetically pleasing, comfortable, healthful, and stimulating. A building, therefore, is more than shelter, even more than a tool; it is an integral part of the educational process.

School planners must continually stress the need for flexibility in programs and facilities. Especially in planning new facilities, we should recognize that buildings are planned for life expectancies of forty to fifty years. During this period changes may be anticipated in a number of areas of the learning situation: course offerings; type of equipment; teaching methods; teaching materials; nature of the school population; numbers in the school population; and responsibility of the school. It is, therefore, easy to recognize that facilities built forty or fifty years ago -- even though they may still be structurally sound -- are educationally outdated or might be termed educationally unsound.

An indication of educational trends was published in the February 1966 issue of the American School Board Journal by Dr. Harold Silverthorn, Bothell, Washington.

Away From

1. Memorization of information
2. Accumulation of information
3. Instruction
4. Facts and principles
5. Tests
6. Lecture
7. Conformity
8. Group instruction
9. Cookbook directions
10. Lecture
11. Subject-matter fragmentation
12. Imposed discipline
13. Scope and sequence
14. All instruction grouped for 30
15. Infallible authority
16. Problem solution
17. Indoctrination and training
18. Tradition
19. Education as a finished product
20. Textbook outline and content
21. A common curriculum for all children
22. Statelite libraries
23. Emphasis on text and reference books
24. A completely one-teacher-dominated classroom

Toward

- Comprehension and understanding
- Concept establishment and development
- Learning
- Values
- Application
- Self-directed study and learning
- Creativity
- More individual instruction
- Discovery
- Laboratory
- Integration of material
- Self-discipline
- Structure of the subject
- Large group visual instruction
- Varied sources
- Problem identification
- Learning as a personal matter
- New explorations
- Continuing lifetime learning
- Selected content
- Special education
- General library
- A broadly conceived library
- Use of machines--microfilm, reader, programmer, etc.

SUGGESTIONS AND RECOMMENDATIONS

Since this is not a comprehensive survey, and in keeping with the request of Superintendent Kinder and the Board of Education, two alternate methods of establishing a long-range plan for the Newton Unified School District No. 373 are being presented. In either plan, it appears imperative that the board, administration, staff and community must develop a curriculum which they believe will provide equal and comparable educational opportunities for all of the children in the district. This program must encompass grades K-12 and compare favorably with programs provided by other school districts of comparable size in the State of Kansas and in the Nation.

In both of these plans, it is assumed that a new senior high school plant on an adequate site will be planned and constructed. It is also being recommended that the board of education present the total building program at the same time to the community.

These two plans are in outline form and all the details need to be developed.

Mr. John Smutz, school architect, will develop cost estimates for the two proposed long-range plans.

- I. In the event the board of education and community decide to retain their K6-3-3 type of school organization, they might proceed as follows:
 - A. Plan, design and construct a new senior high school plant on an adequate site to accommodate program as suggested previously in this report for grades 10-12.
 - B. Remodel and convert the present senior high school building for junior high school purposes.
 - C. Convert the Santa Fe junior high school building to house:
 1. Special services (details to be worked out - see Appendix)
 2. Vocational education
 3. Offices as necessary
 4. Storage as necessary
 5. Other activities not housed elsewhere

D. Develop plans for additional elementary facilities.

1. At least a four (4) classroom unit on the Sunset elementary school site.
2. Northridge elementary school site will need a unit of not less than four (4) classrooms.
3. South Breeze elementary school will also need a new unit of at least four (4) or more classrooms.
4. The Lincoln elementary school plant will need complete renovation. This will include at least:
 - a. Removal of some partitions and enlarging spaces
 - b. Toilet facilities on the top floor (boys and girls)
 - c. Acoustical treatment of ceilings
 - d. New lighting for all classrooms and corridors
 - e. Better music facilities
 - f. Drinking fountains and sinks in each classroom
 - g. Storage for library supplies
 - h. Carpeting in kindergarten rooms and elsewhere as needed
 - i. Drapes for library
 - j. Intercommunication system
 - k. New outside glass doors and frames
 - l. New window frames (preferably aluminum)
 - m. Wall display cases in library
 - n. Refrigerated drinking fountains in corridors
 - o. Book shelves for classrooms
 - p. Blinds for darkening rooms
 - q. New venetian blinds
 - r. Other items as deemed necessary (such as enclosed stairwells)
5. The Cooper building needs considerable work as enumerated on page 21.
6. A new library building for the Chisholm junior high school.
7. In addition to the above, each of the present elementary school buildings need several large items, such as:
 - a. New artificial lighting
 - b. Acoustical ceilings
 - c. Refrigerated drinking fountains
 - d. Some air conditioning for summer school students

II. It might be logical for the board of education and community to study carefully the "middle school" concept. If this approach was followed, the school might be organized on a K4-4-4 plan. In this event only grades K-4 would be housed in the present elementary school centers and it would not be necessary to add the units to the present Sunset, Northridge, and South Breeze elementary schools. The other elementary school buildings would likewise be remodeled only for the kindergarten and the first four grades.

As stated earlier in this report, the district could organize on a K5-3-4 plan. This would be similar to the above, except retaining kindergarten and five grades at the lower level might not relieve the overcrowded conditions at some of the elementary centers.

A. To follow this procedure would likewise call for planning, designing and constructing a new high school plant on an adequate school site.

1. However, under this plan, the senior high school plant would house grades 9-12.

a. Currently, there are many studies being made with an attempt to evaluate the rationale of a high school for grades 9-12 vs. a high school for grades 10-12.

(1) It is being suggested that perhaps it would be wise to secure some of these studies and make such determinations as seem most logical for Newton.

B. The Santa Fe junior high school building and the present senior high school building would be remodeled and converted to properly house grades 5-8.

C. The Chisholm junior high school plant would likewise need to be converted to properly accommodate grades 5-8.

1. Since the library in this building is inadequate, it would probably still be necessary to construct this facility as suggested under Plan I.

Observing the Newton public school facilities in an impartial manner from the state level, there appears to be a number of real critical areas. Normally such a situation cannot be properly corrected by simply making a few alterations and additions as pointed out in the Conclusion on page 43. Therefore, it is being suggested and recommended that the board of education and community develop and adopt a long-range plan and vote necessary bonds to supplement their Special Capital Outlay Funds to provide all of the existing facility needs at one time.

CONCLUSION

The good school of today and tomorrow must provide improved educational opportunities for an ever increasing number of boys and girls. The good school of the past is not adequate for the present and future. Innovations must be developed, teaching methods must be improved, and school construction must be planned for future generations to be able to cope with the rapidly expanding field of knowledge. The superior mind must be challenged. Average ability must be more fully developed. The below average intellectually and the physically and mentally handicapped must be provided the best possible learning situation. The need for further diversification of the curriculum arises from this wide range and variety of abilities and interests.

Mark Hopkins did a good job of teaching in his day when he sat on one end of a log and the farm boy sat on the other but present and future conditions demand a more adequate environment.

The maintenance of an effective school system is one of the great social concerns of our time. Yet, a too common view is that all we need is to "patch up" our system, give the schools a little more money and maintain the "status quo." Many people do not seem to realize that the public schools, which are the foundation of our democratic way of life, must be strengthened if we are to perpetuate and improve our "way of life." It appears that we may be in a long drawn out conflict with an ideology quite unlike our own and that many current problems will be left for future generations to solve. Our leaders of tomorrow are in the schools of today. Therefore, it is our responsibility to train our children to live and work in tomorrow's complex world.

APPENDIX I

SPECIAL EDUCATION

As part of their effort to provide for all pupils quality education tailored to individual needs, educators are placing greater emphasis on special education for exceptional children.

Identifying these children, referring them for special services, and providing the unique educational help they need are important in guiding exceptional children toward realization of their capabilities.

All of the notations under the next ten subheadings are direct quotes from publications issued by the division of Special Education, Kansas State Department of Public Instruction.

1. Educating the Child with Special Needs

Some children, because of mental, physical, or emotional differences, cannot fully benefit from a regular school curriculum. When these exceptional children receive special education provisions, they are more able to make optimal progress.

Children with special needs total approximately 10 to 13 percent of school-age children, but the social and human aspects of exceptionality cannot be measured numerically. Because special education is often instrumental in the release of human potential leading to better social adjustment and greater economic usefulness, the program for exceptional children is one of the best investments a community can make.

Special education is two to seven times more costly than a regular curriculum. However, Kansas does provide state aid in special education for all types of exceptionalities, and approves services in the following areas:

Blind, Educable mentally retarded, Emotionally and socially maladjusted, Gifted, Hard-of-hearing, Homebound and hospitalized, Neurologically impaired, Orthopedically handicapped, Partially seeing, Trainable mentally retarded, School psychology services, School social work services, Speech correction, Hearing conservation and Direction of special education.

2. Educable Mentally Retarded

Two or three children of every 100 cannot succeed in a regular school program because of their limited mental capacity. If these children are to receive educational opportunities equal to those of other children, they will need special help beyond that provided in the regular school curriculum. Research has shown that this help can best be provided in a special class setting.

With the proper training and motivation, educable mentally retarded children can acquire necessary skills to become socially competent and economically independent adults. From both human and economic points of view, providing needed opportunities for the educable mentally retarded is one of the best investments a community can make.

3. Homebound and Hospitalized Children

Classroom instruction provides social contact and generates enthusiasm and motivation among class members. Its advantages over other forms of instruction have made the classroom within the school the recommended and accepted educational setting.

However, because of limitations in their physical and emotional health, some children and youth are unable to attend school for brief or extended periods of time. Children and youth confined to their homes, to hospitals, to detention and maternity homes, have a right to public school education. High quality home or hospital instruction enables them to make academic progress and helps them to overcome their limitations or to make satisfactory adjustments.

4. Speech Correction

The ability of one man to communicate with another is one of the human functions we take for granted. One of the most important facets of communication between men is the oral transmission which allows him to share his thoughts with another man or group of men. Without this function a man loses some part of his membership in humanity. He loses a part of his ability to interact as one of the human family. A child who cannot talk so others understand--or who talks in a manner inviting ridicule, disgust, or impatience--has lost some of his membership in the world of other children and in the world of adults.

It is the function of a speech correction program to do as much as can be done, with our present knowledge, to prevent a child losing his unique place within the human family because of his speech.

5. Children with Hearing Impairments

Because many types of hearing losses may be alleviated through early identification and medical treatment, it is the responsibility of the public schools to provide a program of hearing screening. Not all hearing losses can be corrected by medical treatment but identification of such losses is important because of educational as well as medical reasons. At least $1\frac{1}{2}$ to 3 percent of a school population will have hearing losses severe enough to require medical attention and/or special education.

6. Severely Handicapped (Trainable) Children

The special class may or may not be housed in a regular school building. Cottage housing is often preferred.

Size of the classroom should be comparable to a regular primary classroom.

Playground facilities should be available.

7. Visually Impaired Children

One in every four school children requires some form of eye care. Because of this incidence and because visual problems in children are often overlooked, vision screening in Kansas schools is very important.

Children with severe visual impairments are usually, but not always, identified before school age. Schools have the responsibility of identifying and making educational provisions for children with visual impairments.

Approximately one in 500 school-age children can be classified as blind or partially seeing. Formerly residential school placement was the only educational choice for these children. Now special education for the visually impaired is also available in public schools. It is frequently in the child's best interests to educate him in his home community with children who have normal sight.

8. Intellectually Gifted Children

Special education programs for gifted pupils will follow much the same pattern as other Special Education programs, in that it will include only those who deviate substantially from the average to require a special program.

At this time only programs in elementary school will be approved in a special class setting. The approvable case load will be smaller than the average classroom and the class size is ten to twenty pupils. Although children will be integrated into other class settings, they will be identified with their special class. No more than a two-year chronological age span will be approved at this time under this plan.

9. Emotionally Disturbed and Socially Maladjusted Children

In the public schools of Kansas, as in the nation's schools, there are many children whose behavior, thinking, and educational patterns tend to be so distorted that providing them with adequate educational opportunities in the regular classroom is nearly impossible. Such children, generally labeled as emotionally disturbed and/or socially maladjusted, are conservatively estimated to be in numbers exceeding 2½% of the total school population, hence creating a problem of sufficient magnitude to require special programming.

Any school system that attempts to educate all of its children will recognize the need to provide some educational programs for these children, programs which may, for the first time, allow the child access to the fruits of learning. Such programming is not easy, nor inexpensive. It presents extensive problems in training, education, and administration. The philosophical commitment to this program, however, will reap rich dividends in the satisfaction of seeing societal rehabilitation occur in disturbed and maladjusted children.

10. Neurologically Impaired Children

The neurologically impaired, the brain-injured, or the brain-damaged, are three terms applied to the same type of exceptional child. He is often recognizable by his erratic behavior which appears to be non-conforming and unpredictable when compared to that of his normal peers. Often his difficulty lies only in his learning processes; he cannot

adjust to his environment and he cannot learn in the traditional manner. Because of his brain injury he is essentially a crippled child, although there is no visible evidence of this crippling condition.

The educational planning for this child, with normal or near-normal mental ability and with normal or near-normal physical development, must be different.

APPENDIX II

A BRIEF SUMMARY OF P.L. 89-10, ELEMENTARY AND SECONDARY EDUCATION ACT OF 1965

Title I

The Elementary and Secondary Education Act of 1965 presented a unique opportunity for educators to obtain the funds necessary for a wide variety of projects to improve educational opportunities. The Act consisted of five titles designed to provide funds to implement different approaches for improving elementary and secondary education. Title I was intended to provide compensatory educational opportunities for educationally deprived children in elementary and secondary schools. Title II authorizes school library resources, textbooks and other institutional materials for elementary and secondary schools. Title III provided funds for the funding of supplementary educational centers and services intended to stimulate and assist in the provision of vitally needed educational services not then available. Title IV authorizes the establishment of educational research and training grants to universities and colleges and other public or private agencies, institutions, and organizations and to individuals for research, surveys and demonstrations in the field of education. Title V provided grants to strengthen the state departments of education.

Of the five Titles of this Act, the largest in total funds appropriated and perhaps the most significant to local educators is Title I. Title I provided basic grants directly to local educational agencies to provide compensatory educational programs in areas with concentrations of children from low-income families. The funds were intended to expand and improve educational projects at the local level which were planned to meet the greatest educational needs of the children residing in these low-income areas.

During fiscal year 1967, Kansas was allocated \$9,992,513 for Title I projects. This money was allocated to the state on the basis of the number of children age five to seventeen, inclusive, of families with incomes of less than \$2,000 as reported in the 1960 census and the number of children of such ages of families with incomes of more than \$2,000 who were receiving payments under the program of aid to families with dependent children in 1965. The total allocation was then sub-allocated among the local educational agencies in the state. The four grants received by Kansas which comprise the amount of money available for use by local districts and other institutions for fiscal year 1967 was as follows:

Children of low income families	\$9,608,706
Handicapped children	252,255
Neglected and delinquent children	18,648
Migrant children	112,904
Total of the grants	\$9,992,513

Title II

According to the official U. S. Office of Education Guidelines:

"Title II of the Elementary and Secondary Education Act of 1965 (ESEA) authorizes 'a program for making grants for the acquisition of school library resources, textbooks, and other printed and published instructional materials for the use of children and teachers in public and private elementary and secondary schools.' This program requires no state or local matching funds.

"Funds are allotted to each state on the basis of the total number of children enrolled in its public and private elementary and secondary schools in relation to the total number of children enrolled in such schools in all the states." For fiscal year 1968, the third year of the program, the amount available for Title II probably will be \$105 million. Of this amount Kansas will receive approximately \$1,150,000.

The purpose of Title II is stated clearly in the introduction to the original official U. S. Office of Education Guidelines as follows:

"Title II of the Act recognizes that, at all levels of education, teaching programs have become increasingly dependent upon effective school library materials and services, high quality, up-to-date textbooks, and a variety of other instructional resources. Basic courses in nearly all areas of instruction depend upon good school libraries and instructional materials.

"Title II of the Act provides that school library resources, textbooks, and other printed and published instructional materials should be made readily available on an equitable basis for the use of the children and teachers in all the schools, public and private, which provide elementary and secondary education as determined under state law; that school library resources, textbooks, and other printed and published instructional materials should be of high quality; and that they should be those suited to the needs of the children and teachers in elementary and secondary schools. Since Title II of the Act is designed to benefit children and not schools, its benefits extend to children attending profit-making as well as nonprofit schools. Federal funds made available under this title for any fiscal year must be used to supplement and, to the extent practical, increase the level of state, local, and private school funds for instructional materials, and in no case to supplant such funds."

GWR:fea
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